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Examining the Effects of Environmental Concern, Attitude, and Perceived Behavioral Control on Generation Z's Purchase Intention for Recycled Fashion Products

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Abstract

The fashion industry significantly contributes to environmental degradation, particularly through textile waste and carbon emissions. Recycled fashion products have emerged as an alternative to promote sustainable consumption. Although Generation Z is recognized for having a high level of environmental concern, the dynamics underlying the formation of purchase intention toward recycled fashion products require deeper understanding. This study aims to examine the effects of environmental concern, attitude, and perceived behavioral control on Generation Z's purchase intention toward recycled fashion products. This research adopts a quantitative approach using a survey method involving 115 Generation Z respondents who are familiar with recycled fashion products. Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) 4.0. The findings indicate that environmental concern, attitude, and perceived behavioral control have positive and significant effects on purchase intention. These results reinforce the applicability of the Theory of Planned Behavior in explaining purchase intention within the sustainable fashion context and highlight the importance of psychological factors and perceived behavioral control in shaping Generation Z's purchasing decisions.

Keywords: environmental concern; attitude; perceived behavioral control; purchase intention; generation z

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Introduction

The fashion industry is one of the global industrial sectors that contributes significantly to environmental problems due to the high volume of textile production and consumption. According to a report by waste managed, the world generates approximately 92 million tons of textile waste annually, and this figure is projected to increase to 102 million tons by 2030 if consumption patterns remain unchanged. Global textile waste is even projected to reach 300 million tons by 2050. This condition is increasingly alarming as only around 1% of discarded clothing is recycled into new garments, while the remainder ends up in landfills or is incinerated. In addition to generating large amounts of waste, the fashion industry contributes approximately 10% of global carbon emissions, directly affecting environmental pollution and climate change (Managed, 2025).

The issue of textile waste also occurs in Indonesia alongside increasing freedom of self-expression and fashion consumption. Data from Good Stats Indonesia indicate that in 2020 approximately 18.6 million tons of textile waste were disposed of in landfills. On average, consumers

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discard about 60% of their clothing within one year of purchase, reflecting excessive consumption behavior and a very rapid fashion cycle. Moreover, three out of ten Indonesians have discarded clothing after only one use (Good Stats, 2023). Based on data from the National Waste Management Information System (SIPSN), textile waste accounts for approximately 2.5% of the total national waste volume. Although the percentage appears small, the continuously increasing trend in fashion consumption has the potential to significantly expand textile waste in the future.

Data from the Ministry of Environment and Forestry in 2021, recorded in SIPSN, show that Indonesia produces approximately 2.3 million tons of clothing waste, equivalent to 12% of total household waste. However, only around 0.3 million tons are successfully recycled, while the remainder remains inadequately managed (Kementerian Lingkungan Hidup, 2024). The impact of textile waste extends beyond land ecosystems to aquatic environments. A study conducted by the Center for Oceanographic Research at Institut Pertanian Bogor (IPB) in February 2022 found that 70% of the midstream section of the Citarum River was contaminated with microplastics in the form of polyester fibers originating from fashion industries located along the river (Advanced Analytics Asia, 2023).

Generation Z refers to individuals born between the mid-1990s and the early 2010s, or more specifically from 1997 onward according to the Pew Research Center's classification. Having grown up amid rapid digital transformation, this generation has had mobile devices and social media woven into daily life from an early age, making them true digital natives with high engagement in digital technology and broad, fast access to information (Deepika & Massand, 2025). This intensive interaction with digital media has made Generation Z more attuned to social and environmental issues, positioning them as a consumer group that is particularly responsive to sustainability messaging and influential in shaping attitudes and purchase intentions toward environmentally friendly fashion products (Chaturvedi et al., 2020).

Amid the escalating textile waste problem, young consumers particularly Generation Z play a crucial role in the fashion industry. A GoodStats Indonesia survey in 2024 revealed that 58.2% of young people aged 18–25 consider fashion an important aspect of their lives and part of their lifestyle (Good Stats, 2024). This consumption pattern includes various fashion categories such as clothing, t-shirts (Dobbelstein & Lochner, 2023), footwear (Yadav et al., 2022), accessories (Thongpila, 2019), jackets and underwear (Schiaroli et al., 2025). The high intensity of consumption positions Generation Z as a segment that substantially contributes to the increase in textile waste.

Nevertheless, Generation Z is also recognized for having relatively high environmental concern. This awareness is reflected in their support for environmentally friendly lifestyles and sustainable practices. A 2024 Jakpat survey of 1,155 Generation Z respondents found that a substantial share of them support the Zero Waste Movement, both by using recycled materials and by routinely sorting waste at home (Good Stats, 2025). Environmental concern reflects the extent to which individuals recognize environmental problems and feel responsible for reducing the negative impacts of their consumption activities. Consumers with higher environmental concern tend to demonstrate stronger purchase intentions toward sustainable fashion products (Dangelico et al., 2022). Research conducted in Indonesia similarly found that environmental concern significantly influences green purchase intention for slow fashion products (Alya Audina et al., 2024). This is particularly relevant in light of the fast fashion phenomenon, which is characterized by mass production, rapid trend cycles, and high

textile waste; amid these environmental impacts, growing consumer environmental concern has driven a shift toward more sustainable choices (Cayaban et al., 2023). As the most active consumer segment in the fashion market, Generation Z holds considerable potential to shift consumption patterns if equipped with a high level of environmental awareness.

In addition to environmental concern, consumers' attitudes toward recycled fashion products constitute an important psychological factor in shaping purchase intention. Attitude reflects consumers' positive or negative evaluations of a behavior, in this case purchasing recycled fashion products. When consumers perceive that buying sustainable fashion contributes meaningfully to environmental preservation, they tend to develop more positive attitudes and stronger purchase intentions (Tusholihah & Nora, 2025). Other studies indicate that consumers who view sustainability as part of their self-identity exhibit higher loyalty toward environmentally oriented brands (Rossanty & Nasution, 2025). This positive attitude functions as a bridge between moral awareness and economic behavior, encouraging consumers to translate environmental concern into actual purchasing decisions.

Beyond environmental concern and attitude, perceived behavioral control (PBC) is also a key factor influencing purchase intention toward recycled fashion products. Perceived behavioral control refers to the extent to which individuals perceive that they possess the ability, resources, and opportunities to perform a behavior. In the context of recycled fashion, PBC includes perceptions of product availability, price affordability, accessibility through online platforms, and ease of payment systems. Research by (Y. Sun & Xing, 2022) shows that when consumers perceive recycled fashion products as easy to find and affordable, purchase intention increases. Similar findings by (Ifthiharfi et al., 2025) emphasize that perceived ease plays a significant role in encouraging purchase intention toward sustainable fashion products.

Furthermore, easy access to information about recycled fashion products through social media and digital platforms enhances consumers' perceived behavioral control. Clear and accessible information can increase consumers' confidence in making purchasing decisions (Samaniego-Arias et al., 2025). The convenience of online shopping, digital payment systems, and transparent product information reduces psychological barriers that often prevent consumers from purchasing recycled fashion products (Reynaldi et al., 2023), reinforcing the relevance of PBC as a determinant of purchase intention in this study's context.

Despite this growing body of evidence, most prior studies applying the Theory of Planned Behavior to sustainable consumption have examined environmental concern, attitude, and perceived behavioral control separately rather than within a single model focused on recycled fashion. Moreover, research specifically addressing recycled or circular fashion, such as (Chaturvedi et al., 2020; Kim et al., 2021) has largely been conducted in other developed or developing-country settings (e.g. India, China, the United States), leaving Indonesian Generation Z's purchase intention toward recycled fashion relatively underexplored. Existing studies on green or sustainable purchase intention have also predominantly focused on eco-friendly products in general or on slow fashion, while empirical evidence specific to recycled fashion as an implementation of the circular economy remains scarce.

Based on this research gap, the present study aims to analyze the effects of environmental concern, attitude, and perceived behavioral control on purchase intention toward recycled fashion

products among Indonesian Generation Z, by integrating the three variables within a single explanatory model and focusing specifically on recycled fashion as a direct manifestation of the circular economy. By centering on Generation Z consumers in Indonesia, this study offers context-specific evidence from a digitally native, developing country population that remains underrepresented in the recycled fashion literature. The findings are expected to contribute theoretically to the development of sustainable consumer behavior literature and provide practical implications for environmentally oriented fashion industry practitioners and policymakers in promoting a transition toward more responsible fashion consumption.

Literature Review

Purchase intention reflects an individual's readiness and willingness to perform a particular purchasing behavior. It represents the motivational factors that influence a person's decision to engage in a specific action and indicates how much effort an individual is willing to exert to perform that behavior. In the context of sustainable fashion, Generation Z's purchase intention toward recycled fashion products represents their tendency and commitment to choose garments made from recycled materials as part of their consumption decisions. As one of the most influential consumer segments, Generation Z is characterized by high exposure to digital information, social trends, and environmental issues, which shape their consumption preferences and decision making processes. Understanding the psychological factors that drive their purchase intention toward recycled fashion is therefore essential.

Within the framework of the Theory of Planned Behavior (TPB), purchase intention is positioned as the most immediate antecedent of actual behavior (Ajzen, 1991). TPB explains that intention is shaped by attitude and perceived behavioral control as key psychological determinants of behavior. This study extends the model by incorporating environmental concern as an additional independent variable with a direct effect on purchase intention, consistent with prior TPB based studies on sustainable consumption that commonly integrate environmental concern as a salient predictor of green purchase intention (Chaturvedi et al., 2020; Dangelico et al., 2022). Collectively, attitude, environmental concern, and perceived behavioral control provide a comprehensive explanation of how Generation Z forms purchase intention toward recycled fashion products.

Environmental Concern

Environmental concern further strengthens this intention by reflecting the degree to which individuals are aware of environmental problems and feel personally responsible for protecting the environment. Li et al (2021) define environmental concern as the extent to which individuals recognize environmental problems and demonstrate support for addressing them, or express personal willingness to contribute to their resolution. In this study, environmental concern is positioned as an independent variable with a direct effect on purchase intention, concern for environmental degradation is expected to directly motivate individuals to act through the consumption of recycled products.

Among Generation Z, frequent exposure to issues such as climate change, environmental pollution, and textile waste increases their emotional, cognitive, and moral engagement with sustainability issues (Chaturvedi et al., 2020; Schiaroli et al., 2025). In the recycled fashion context, consumers who recognize the harmful environmental impacts of conventional fashion production are

more motivated to support sustainable alternatives (Şener et al., 2023). Higher levels of environmental concern encourage individuals to align their consumption choices with their environmental values, thereby increasing their willingness to purchase recycled fashion products (Li et al., 2021). Empirical evidence confirms that environmental concern positively and significantly influences purchase intention in the sustainable fashion domain (Dobbelstein & Lochner, 2023; Schiaroli et al., 2025), and similar effects have been reported among consumers of recycled clothing (Chaturvedi et al., 2020). Building on this evidence, individuals with stronger environmental concern are expected to exhibit a higher intention to purchase recycled fashion products. Based on the findings above, the following hypothesis is proposed:

H1: Environmental concern has a positive and significant effect on purchase intention toward recycled fashion products.

Attitude

Attitude refers to an individual's positive or negative evaluation of performing a particular behavior. In the TPB framework, attitude is formed through behavioral beliefs about the expected outcomes and attributes associated with the behavior (Chen & Chang, 2012). When Generation Z consumers believe that purchasing recycled fashion products contributes to environmental preservation, reduces textile waste, and supports sustainable values, they are more likely to develop a favorable evaluation of the behavior. Positive beliefs regarding environmental friendliness, product durability, usefulness, and overall quality enhance their evaluation of recycled fashion products (Mostafa, 2007). Trust in a brand's sustainability commitment also strengthens consumers' confidence in their purchasing decisions.

Within TPB, attitude is one of the most influential direct determinants of intention, the more positive an individual's attitude toward a behavior and the stronger the resulting intention to perform it (Wong et al., 2018). In the recycled fashion context, a positive attitude forms when consumers believe the product not only contributes to environmental preservation but also meets aesthetic and functional needs comparable to conventional fashion products (Teng & Wang, 2015). A positive attitude further reflects the internalization of sustainability values, when consumers regard recycled fashion consumption as consistent with their moral values and self-identity, their purchase intention becomes stronger (H. Sun et al., 2018).

Empirical studies consistently indicate that attitude has a positive and significant effect on purchase intention for sustainable products, demonstrating that favorable evaluations directly translate into stronger behavioral intention (H. Sun et al., 2018; Teng & Wang, 2015; Wong et al., 2018), a relationship also confirmed among recycled fashion consumers by (Dobbelstein & Lochner, 2023). Given this consistent pattern of findings, a positive attitude toward recycled fashion is expected to strengthen Generation Z's intention to purchase such products. Based on this body of evidence, the following hypothesis is proposed:

H2: Attitude has a positive and significant effect on purchase intention toward recycled fashion products.

Perceived Behavioral Control

Perceived Behavioral Control (PBC) also plays a crucial role in shaping Generation Z's purchase intention by reflecting their perceived ability and level of control over performing the purchasing behavior. PBC refers to individuals' perceptions of having sufficient resources, opportunities, and capabilities to carry out a behavior (Ajzen, 1991). Within TPB, PBC is one of the core components and has been found in several studies to exert the strongest influence on purchase intention toward sustainable fashion (Wu & Lee, 2025), a finding also supported in the specific context of recycled fashion by (Ifthiharfi et al., 2025). Perceived control relates to individuals confidence in their ability to overcome behavioral obstacles, greater confidence strengthens perceived control and in turn, increases purchase intention toward recycled products. In the context of recycled fashion, this includes perceptions of product availability, affordability, accessibility through online platforms, time availability, and confidence in making purchasing decisions (Jalil & Shaharuddin, 2019; Thongpila, 2019). When Generation Z consumers perceive recycled fashion products as accessible and financially manageable, their sense of control increases and psychological barriers are reduced. PBC also shapes actual behavior by reflecting factors such as ease of access to recycled products, the availability of clothing recycling facilities, and government support for the fashion industry, all of which can strengthen consumer confidence in purchasing recycled fashion products (Jalil & Shaharuddin, 2019). Accordingly, a higher level of perceived behavioral control is expected to increase Generation Z's intention to purchase recycled fashion products. Based on the above, the following hypothesis is proposed:

H3: Perceived behavioral control has a positive and significant effect on purchase intention toward recycled fashion products.

Methods

This study employed a quantitative research design to examine the influence of environmental concern, attitude, and perceived behavioral control on Generation Z's purchase intention toward recycled fashion products within the framework of the Theory of Planned Behavior (TPB). An explanatory research design using a survey method was adopted, as the study aimed to test hypotheses and explain the causal relationships between the independent variables and the dependent variable through questionnaire-based data collection and statistical analysis (Sofya et al., 2024). Based on the time horizon, this research employed a cross-sectional design, in which data were collected from respondents at a single point in time.

The population consisted of Generation Z consumers in Indonesia who are familiar with or have been exposed to recycled fashion products. Respondents were selected using a non-probability sampling technique, specifically purposive sampling, based on the following criteria: (1) belonging to Generation Z, (2) actively using social media, (3) being familiar with various recycled fashion brands, (4) having viewed influencer content on social media related to recycled fashion products, and (5) possessing knowledge of and interest in recycled fashion products. Based on these criteria, a sample of 115 respondents was obtained, which is considered adequate for PLS-SEM analysis given the relatively simple structure of the research model (Hair et al., 2017). Data were collected through a structured online questionnaire administered using Google Forms and distributed via respondents personal networks and social media platforms, including Instagram and WhatsApp.

The study included three exogenous variables, environmental concern, attitude, and perceived behavioral control and one endogenous variable, purchase intention. Measurement items were adapted from prior studies and assessed using a five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Hair et al., 2017). Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0 software. The analysis involved two stages which is evaluation of the measurement model and evaluation of the structural model.

The measurement model (outer model) was evaluated by examining construct validity and reliability. Convergent validity was assessed using outer loadings with recommended thresholds of outer loadings above 0.70 (Abdillah & Hartono, 2015). Discriminant validity was evaluated using cross-loadings, the Fornell–Larcker criterion, and the Heterotrait–Monotrait Ratio (HTMT) to ensure that each construct was empirically distinct from the others. Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability, with values greater than 0.70 indicating satisfactory reliability (Hair et al., 2017).

The structural model (inner model) was assessed by examining the path coefficients and the coefficient of determination (R^2) to evaluate the explanatory power of the proposed model. Higher R^2 values indicate greater predictive capability of the independent variables in explaining the endogenous construct. Finally, the proposed hypotheses were tested using the bootstrapping procedure. Statistical significance was determined based on the t-statistic and p-value, with hypotheses considered supported when the t-statistic exceeded 1.64 for one-tailed testing at the 5% significance level (Abdillah & Hartono, 2015).

Results and Discussion

This study involved Generation Z respondents interested in recycled fashion products. Respondent characteristics are analyzed to describe their demographic and socio-economic backgrounds and are presented in Table 1 below.

Table 1. Respondent Demographics

Characteristics	Frequency	Percentage (%)
Gender		
Male	45	39,13
Female	70	60,87
Age		
13-17 years	8	6,96
18-22 years	22	19,13
23-28 years	85	73,91
Occupation		
Student	39	33,91
State Owned Enterprise Employee (SOE/ROE)	25	21,74
Civil Servant	23	20,00
Private Sector Employee	17	14,78
Enterpreneur	11	9,57
Education Level		
Senior High School/Vocational High School	27	23,48
Diploma (D3)	12	10,44
Bachelor's Degree/Applied Bachelor's Degree (S1/D4)	67	58,26

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Characteristics	Frequency	Percentage (%)
Master's Degree (S2)	9	7,83
Monthly Income		
< Rp1.000.000	18	15,65
Rp1.000.000–1.999.999	18	15,65
Rp2.000.000–3.999.999	16	13,91
Rp4.000.000–5.999.999	35	30,43
Rp6.000.000–7.999.999	19	16,52
Rp8.000.000–9.999.999	6	5,22
> Rp10.000.000	3	2,61
Purchase Plan		
< 1 month	22	19,13
1–3 months	51	44,35
> 3 months	42	36,52
Preferred Recycled Fashion Brand		
Pijak Bumi	24	20,87
Sukkha Citta	19	16,52
Sisa Benang	14	12,17
LANIVATTI	11	9,57
Vert Terre	9	7,83
Indosole	8	6,96
Kana Goods	7	6,09
Pable	6	5,22
Topiku	5	4,35
Osem	4	3,48
Others	8	6,96
Source of information		
Social Media	38	33,04
Influencer Content	19	16,52
Review website/blog	17	14,78
Friends/Family	16	13,91
Retail Store/*Pop-up store*	10	8,70
Others	15	13,04
Total	115	100

Source: Primary Data Processing (2026)

The respondent characteristics provide a comprehensive profile of Generation Z consumers targeted in this study on interest in recycled fashion products. Female respondents dominated the sample, suggesting that women tend to be more engaged in fashion consumption and more sensitive to sustainability and environmental issues when making purchasing decisions. This pattern may also reflect stronger emotional and aesthetic considerations among female consumers, which can further reinforce their interest in recycled fashion as both a sustainable and stylistically appealing choice. Most respondents fell within the 23–28 year age range, representing early adulthood within Generation Z. Individuals at this stage generally possess greater independence in purchasing decisions, more stable financial resources, and heightened awareness of social and environmental issues compared to younger consumers. Younger age groups were considerably less represented, suggesting that interest in recycled fashion tends to strengthen with age, life experience, and accumulated exposure to sustainability-related information.

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In terms of occupation, students formed the largest group, followed by state-owned enterprise employees, civil servants, private sector employees, and entrepreneurs, indicating that interest in recycled fashion is not confined to a single occupational segment but spans a broad range of professional backgrounds. Most respondents held a bachelor's or applied bachelor's degree, reflecting a relatively high level of educational attainment within the sample. This may correspond to greater exposure to environmental issues through formal education and broader information access. Monthly income was concentrated in the middle range, suggesting that recycled fashion products in this sample are primarily accessed by consumers with moderate purchasing power rather than being limited to a niche, high income segment.

Regarding purchasing behavior, most respondents planned to purchase fashion items within one to three months, indicating relatively planned rather than impulsive consumption patterns. This suggests that decisions to purchase recycled fashion products tend to involve a degree of deliberation, possibly including comparisons between brands and consideration of product value and sustainability credentials. Pijak Bumi and Sukkha Citta emerged as the most preferred recycled fashion brands, reflecting stronger trust in and recognition of established local sustainable fashion brands compared to newer or less familiar alternatives. Social media was the most commonly cited source of information, followed by influencer content and review websites or blogs, indicating that digital platforms play a considerable role in shaping how this sample encounters and evaluates recycled fashion products, and underscoring the relevance of online information channels in supporting sustainable consumption decisions among Generation Z.

Statistical Analysis

This study employed Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 software to test the proposed research model.

Convergent Validity

The outer loading test was conducted to evaluate the validity of each indicator in measuring its respective latent construct. In the context of Partial Least Squares–Structural Equation Modeling (PLS-SEM), an indicator is considered to have adequate convergent validity if the outer loading value exceeds 0.70 (Hair et al., 2017). The higher the loading value, the stronger the relationship between the indicator and its construct. The results of the outer loading test for all variables in this study are presented in Table 2.

Table 2. Outer Loadings

Construct	Indicator	Outer Loading	Result
Attitude (ATT)	ATT1	0,929	Valid
	ATT2	0,848	Valid
	ATT3	0,715	Valid
Environmental Concern (EC)	EC1	0,966	Valid
	EC2	0,811	Valid
	EC3	0,861	Valid
	EC4	0,825	Valid
Perceived Behavioral Control (PBC)	PBC1	0,737	Valid
	PBC2	0,767	Valid
	PBC3	0,704	Valid

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Construct	Indicator	Outer Loading	Result
	PBC4	0,714	Valid
	PBC5	0,735	Valid
Purchase Intention (PI)	PI1	0,764	Valid
	PI2	0,810	Valid
	PI3	0,801	Valid
	PI4	0,865	Valid

Source: SmartPLS 4.0 (2026)

Based on Table 2, all indicators exhibit outer loading values above the recommended threshold of 0.70, confirming adequate convergent validity and indicating that each construct is properly measured. The Attitude (ATT) construct shows loadings ranging from 0.715 to 0.929, with ATT1 demonstrating the highest contribution. Environmental Concern (EC) presents strong loadings between 0.811 and 0.966, indicating that its indicators robustly represent the construct. Perceived Behavioral Control (PBC) displays loadings from 0.704 to 0.767, all exceeding the minimum requirement and confirming acceptable validity. Similarly, Purchase Intention (PI) shows loading values between 0.764 and 0.865, reflecting strong indicator reliability. Overall, these results confirm that all constructs meet the convergent validity criteria and that the measurement model is suitable for further structural analysis.

Discriminant Validity

Discriminant validity was first assessed using the cross-loading criterion, whereby most indicators exhibited their highest loadings on their respective constructs, supporting discriminant validity at the indicator level.

Table 3. Cross Loading

Indicator	ATT	EC	PBC	PI
ATT1	**0.929**	0.106	0.596	0.831
ATT2	**0.848**	0.028	0.311	0.534
ATT3	**0.715**	-0.075	0.217	0.320
EC1	0.081	**0.966**	0.275	0.294
EC2	0.009	**0.811**	0.130	0.104
EC3	0.097	**0.861**	0.086	0.192
EC4	-0.076	**0.825**	0.209	0.119
PBC1	0.349	0.121	**0.737**	0.439
PBC2	0.421	0.189	**0.767**	0.801
PBC3	0.372	0.285	**0.704**	0.438
PBC4	0.399	-0.014	**0.714**	0.461
PBC5	0.263	0.197	**0.735**	0.418
PI1	0.501	0.113	0.498	**0.764**
PI2	0.814	0.139	0.561	**0.810**
PI3	0.421	0.189	0.767	**0.801**
PI4	0.628	0.308	0.607	**0.865**

Source: SmartPLS 4.0 (2026)

Discriminant validity was further examined using the Fornell–Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) of each construct with its

correlations with other constructs (Hair et al., 2017). The results showed that the square roots of AVE for Attitude and Environmental Concern exceeded their correlations with all other constructs, confirming adequate discriminant validity, whereas the square root of AVE for Perceived Behavioral Control was slightly lower than its correlation with Purchase Intention.

Table 4. Fornell–Larcker Criterion

	ATT	EC	PBC	PI
ATT	0.835			
EC	0.054	0.868		
PBC	0.503	0.215	0.732	
PI	0.742	0.235	0.751	0.811

Source: SmartPLS 4.0 (2026)

To further assess discriminant validity, the Heterotrait–Monotrait Ratio (HTMT) was examined. The HTMT criterion is considered a more stringent approach for evaluating discriminant validity in PLS-SEM. The results of this test are shown in Table 5 below:

Table 5. Heterotrait–Monotrait Ratio (HTMT)

	ATT	EC	PBC	PI
ATT				
EC	0.127			
PBC	0.554	0.258		
PI	0.808	0.235	0.854	

Source: SmartPLS 4.0 (2026)

The Heterotrait–Monotrait Ratio (HTMT) was used to further assess discriminant validity in the measurement model. HTMT is considered a stringent criterion, where values below 0.90 indicate adequate discriminant validity. The results show that all HTMT values among Attitude (ATT), Environmental Concern (EC), Perceived Behavioral Control (PBC), and Purchase Intention (PI) are below the recommended threshold. This indicates that each construct is empirically distinct and does not excessively overlap with other constructs in the model. Therefore, the discriminant validity requirement has been fulfilled, and the model is suitable for further structural analysis (Hair et al., 2017).

Reliability Test

The reliability test was conducted to evaluate the internal consistency of the measurement instruments used in this study. The test results are shown in Table 6 below:

Table 6. Reliability Test Results

	Cronbach's Alpha	Composite Reliability	AVE
Attitude (ATT)	0,795	0,872	0,697
Environmental Concern (EC)	0,896	0,924	0,753
Perceived Behavioral Control (PBC)	0,792	0,852	0,535
Purchase Intention (PI)	0,826	0,885	0,658

Source: SmartPLS 4.0 (2026)

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The reliability test was conducted using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) to assess internal consistency and convergent validity. The results show that all constructs have Cronbach's Alpha and Composite Reliability values above 0.70, indicating satisfactory reliability. Additionally, all AVE values exceed the recommended threshold of 0.50, confirming adequate convergent validity. Therefore, the measurement model is considered reliable and suitable for further structural model analysis (Abdillah & Hartono, 2015).

R-Square Analysis

The coefficient of determination (R-square) was analyzed to evaluate the explanatory power of the structural model. R-square indicates the proportion of variance in the endogenous variable that can be explained by the exogenous variables included in the model.

Table 7. Analysis of Determination Coefficient

Endogenous Variables	R-Square	Category
Purchase Intention (PI)	0,753	Strong

Source: SmartPLS 4.0 (2026)

Based on the results presented in the table 7, the R-square value for Purchase Intention (PI) is 0.753, which falls into the strong category. This means that 75.3% of the variance in Purchase Intention can be explained by Environmental Concern, Attitude, and Perceived Behavioral Control. The remaining 24.7% is influenced by other variables not included in this research model. These findings indicate that the proposed model has strong predictive capability in explaining Generation Z's purchase intention toward recycled fashion products. The description of the results of the measurement model assessment and inner model tests that have been carried out obtained a measurement framework model as shown in Figure 1 below:

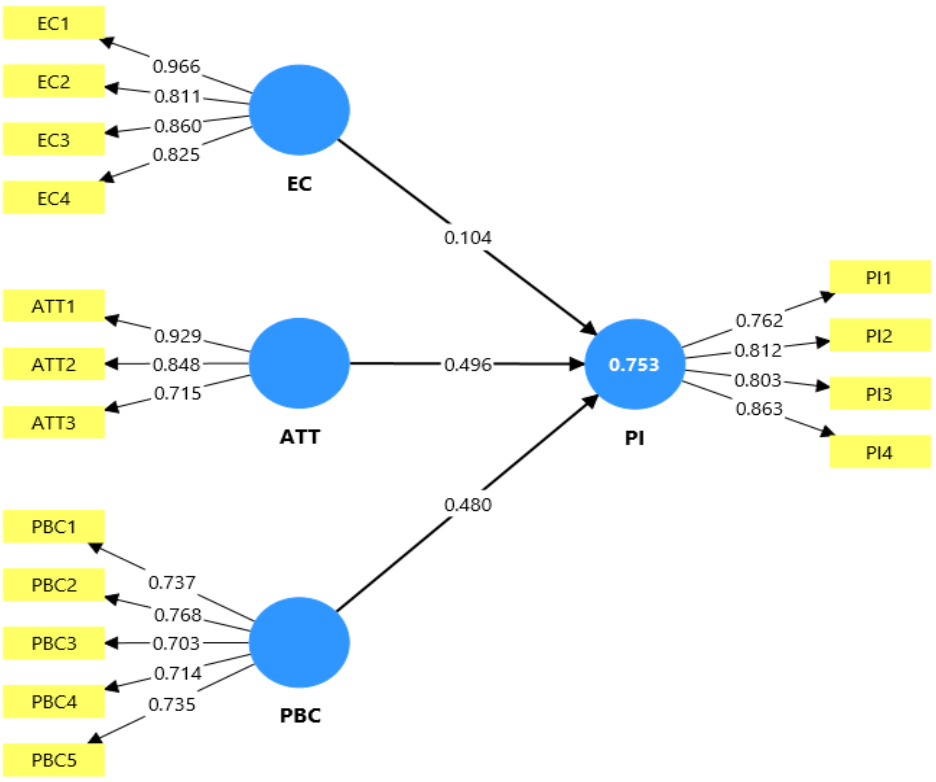

Figure 1. Measurement Model Framework

The measurement framework indicates that the variables forming the analytical model in this research are appropriate, allowingfurther data analysis procedures to be conducted immediately. The R^2 analysis results obtained approached 1, indicating that all variables used have a strong predictive ability in explaining Generation Z's purchase intention toward recycled products.

Hypothesis Testing

The structural model was evaluated to examine the direct effects of Environmental Concern, Attitude, and Perceived Behavioral Control on Purchase Intention. Hypothesis testing was conducted using the bootstrapping procedure in PLS-SEM to determine the significance and strength of the proposed relationships. A hypothesis is considered supported when the T-statistic exceeds 1.64 (one-tailed test) and the p-value is below 0.05.

Table 8. Results of Hypothesis Testing

Hypothesis	Relationship Between Variables	Path Coefficient (β)	T-Statistic	P-Value	Decision
H1	Environmental Concern (EC) → Purchase Intention (PI)	0,115	2,014	0,022	Supported
H2	Attitude (ATT) → Purchase Intention (PI)	0,422	7,854	0,000	Supported
H3	Perceived Behavioral Control (PBC) → Purchase Intention (PI)	0,415	7,632	0,000	Supported

Source: SmartPLS 4.0 (2026)

The results show that Environmental Concern has a positive and significant effect on Purchase Intention ($\beta = 0.115$, $t = 2.014$, $p = 0.022$), thereby supporting H1. Attitude demonstrates a strong positive and statistically significant influence on Purchase Intention ($\beta = 0.422$, $t = 7.854$, $p < 0.001$), supporting H2. Similarly, Perceived Behavioral Control exerts a positive and significant effect on Purchase Intention ($\beta = 0.415$, $t = 7.632$, $p < 0.001$), supporting H3.

Among the three predictors, Attitude emerges as the strongest determinant of Purchase Intention, followed closely by Perceived Behavioral Control, while Environmental Concern shows a smaller yet statistically significant contribution. Overall, all hypothesized relationships are supported, indicating that these psychological factors play a substantial role in explaining Generation Z's purchase intention toward recycled fashion products.

Discussion

The findings of this study reveal that Environmental Concern has a positive and significant influence on Purchase Intention toward recycled fashion products. This indicates that individuals who exhibit greater awareness of environmental issues and stronger concern about environmental degradation are more likely to develop intentions to purchase recycled fashion items. Considering that the respondents belong to Generation Z, a cohort widely recognized for its sensitivity to sustainability issues and environmental challenges, this result is both theoretically and contextually relevant. The descriptive findings suggest that respondents generally possess a relatively high level of environmental concern, reflecting cognitive awareness of the negative environmental consequences

of textile waste and fast fashion practices. However, although Environmental Concern significantly influences Purchase Intention, it does not represent the strongest determinant in the model. This suggests that environmental awareness alone may not be sufficient to fully translate into purchasing intention without the support of other psychological factors.

This result aligns with (Chaturvedi et al., 2020), who found that Generation Z consumers demonstrate high levels of concern about the environmental impact of fast fashion, which significantly increases their intention to purchase recycled clothing. Similarly, (Schiaroli et al., 2025) reported that Environmental Concern positively influences sustainable garment purchase intention across product categories. Nevertheless, they emphasized that the strength of this effect depends on contextual characteristics such as material type, product visibility, and level of skin contact. Such contextual dependency may explain why Environmental Concern, although significant in this study, does not exert the strongest influence. Dobbelstein & Lochner (2023) also identified Environmental Concern as a key psychological driver of recycled product purchase intention, though they acknowledged that its magnitude may vary across different social and market contexts. Collectively, these findings indicate that Environmental Concern serves as a foundational value orientation that supports sustainable purchase intention but operates alongside other determinants.

The analysis further demonstrates that Attitude has a positive and significant effect on Purchase Intention and emerges as the most dominant predictor in the model. This suggests that consumers' favorable evaluations of recycled fashion products such as perceptions of environmental benefits, product quality, design attractiveness, and personal relevance substantially enhance their intention to purchase. Attitude encompasses both cognitive and affective dimensions, meaning that when consumers perceive recycled fashion as beneficial, appealing, and aligned with their values, their purchase intention increases significantly (Jin et al., 2024). From a theoretical standpoint, this finding strongly supports the Theory of Planned Behavior, which positions attitude as a primary determinant of behavioral intention. The strong influence of Attitude observed in this study indicates that personal evaluation of recycled fashion products plays a more direct and powerful role in shaping intention than environmental concern alone.

These findings are consistent with (Jalil & Shaharuddin, 2019), who identified attitude as the strongest predictor of purchase intention toward eco-fashion clothing. Their research highlighted that positive perceptions regarding product quality, design, price fairness, and psychological value significantly drive sustainable purchasing decisions. Similarly, (Yadav et al., 2022) found that favorable attitudes toward recycled footwear directly and significantly increase purchase intention, particularly when consumers perceive innovation and environmental value in the product. Şener et al (2023) also confirmed that positive attitudes toward recycled fashion significantly influence purchase intention, reinforcing the importance of personal evaluation in sustainable consumption behavior. (Wu & Lee, 2025) further demonstrated that attitude plays a significant role in sustainable fashion purchase intention, even when other determinants are considered. Together, these findings emphasize that building and strengthening positive consumer attitudes is essential for encouraging recycled fashion adoption.

In addition, the results show that Perceived Behavioral Control (PBC) has a positive and significant effect on Purchase Intention, highlighting the importance of consumers' perceived ability and control over the purchasing process. This finding indicates that when consumers believe they

possess sufficient financial resources, access to products, relevant knowledge, and confidence in making purchasing decisions, their intention to buy recycled fashion products becomes stronger. Theoretically, this supports the central proposition of the Theory of Planned Behavior, which emphasizes that behavioral intention is shaped not only by attitudinal evaluations but also by perceptions of control over potential barriers and available resources.

The significance of PBC reflects the practical dimension of sustainable consumption. In today's digital marketplace, characterized by online shopping platforms, digital payment systems, and efficient logistics networks, consumers may perceive fewer obstacles in accessing sustainable products. This increased accessibility enhances perceived control and strengthens purchase intention. The findings are consistent with (Samaniego-Arias et al., 2025), who reported that Perceived Behavioral Control significantly influences sustainable product purchase intention when consumers perceive the purchasing process as convenient and manageable. Similarly, (Y. Sun & Wang, 2020) identified PBC as a strong determinant of sustainable fashion purchase intention in digital contexts, emphasizing the importance of accessibility and affordability. Ifthiharfi et al. (2025) also found that perceived control plays a substantial role in shaping sustainable behavioral intentions among younger consumers, particularly when they feel capable of overcoming constraints related to cost, time, and product availability.

Conclusions

This study concludes that Environmental Concern, Attitude, and Perceived Behavioral Control have positive and significant effects on Generation Z's Purchase Intention toward recycled fashion products. Among the three determinants, Attitude was found to be the strongest predictor of purchase intention, followed by Perceived Behavioral Control and Environmental Concern. These findings indicate that fostering favorable evaluations of recycled fashion products, strengthening consumers' confidence in their ability to purchase such products, and increasing environmental awareness are all important in encouraging sustainable consumption behavior. The structural model also demonstrates strong explanatory power, indicating that the Theory of Planned Behavior provides an appropriate framework for explaining Generation Z's intention to purchase recycled fashion products.

This study contributes theoretically by extending the application of the Theory of Planned Behavior in the context of recycled fashion consumption among Generation Z in Indonesia and by providing empirical evidence regarding the relative influence of Environmental Concern, Attitude, and Perceived Behavioral Control on purchase intention. Practically, the findings offer valuable insights for sustainable fashion businesses and marketers to develop strategies that strengthen positive consumer attitudes, improve consumers' perceived ease of purchasing recycled fashion products, and communicate the environmental value of recycled fashion more effectively. These contributions may support the promotion of sustainable consumption and the development of the recycled fashion industry, particularly among Generation Z consumers.

This study only examined three predictors of purchase intention, namely environmental concern, attitude, and perceived behavioral control, and was limited to recycled fashion among Generation Z consumers in Indonesia, so the findings may not fully capture other relevant factors or generalize to other sustainable fashion categories, populations, or cultural contexts. Future research could incorporate additional variables, extend the scope to other forms of sustainable fashion or

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different socio-cultural settings, and examine actual purchasing behavior to address the potential gap between purchase intention and real consumption decisions.

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